

DETAILED ACTION

Claim Objections

1. Claim 4 is objected to because of the following informalities: claim 4 does not end with a period. Each claim begins with a capital letter and ends with a period (See MPEP 608.01(m)). Appropriate correction is required.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 1 is rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. The Federal Circuit¹, relying upon Supreme Court precedent², has indicated that a statutory “process” under 35 U.S.C. 101 must (1) be tied to a particular machine or apparatus, or (2) transform a particular article to a different state or thing. This is referred to as the “machine or transformation test”, whereby the recitation of a particular machine or transformation of an article must impose meaningful limits on the claim's scope to impart patent-eligibility (See *Benson*, 409 U.S. at 71-72), and the involvement of the machine or transformation in the claimed process must not merely be insignificant extra-solution activity (See *Flook*, 437 U.S. at 590”). While the instant claim recite a series of steps or acts to be performed, the claim neither transform an article nor positively tie to a particular machine that

¹ *In re Bilski*, 88 USPQ2d 1385 (Fed. Cir. 2008).

² *Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972); *Cochrane v. Deener*, 94 U.S. 780, 787-88 (1876).

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accomplishes the claimed method steps, and therefore do not qualify as a statutory process.

That is, detecting, superimposing, and authenticating can be done mentally/manually without requiring a particular machine.

Since claims 2-5 depend on claim 1, they are also rejected under 35 U.S.C. 101 for the same reason set forth above for claim 1.

Examiner's Note

3. Examiner has cited particular columns and line numbers or figures in the references as applied to the claims below for the convenience of the applicant. Although the specified citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant, in preparing the responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the examiner.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jain, et al (Hand Book of Image and Video Processing: Fingerprint Classification and Matching).

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With regard to claim 1, Jain, et al. discloses a fingerprint authentication method (20) for a user fingerprint image (UFI), i.e., input fingerprint image, based on a plurality of control fingerprint images (CFI), i.e., template finger print images comprising: (S24) detecting at least one control point, i.e., ridge ending, ridge bifurcation, minutiae, delta points or core points, within the user fingerprint image (UFI) and at least one control point within each control fingerprint image (CFI) (See for example, sections 7-8 and 10, pp. 824-827 and 829-831); (S26) superimposing the user fingerprint image (UFI) with each control fingerprint image (CFI) as a function of a movement, i.e., flow of ridges in a particular direction, of one or more control points within at least one of the user fingerprint image (UFI) and one or more of the control fingerprint images (CFI); and (S28) authenticating a first control fingerprint image (CFI) having a shortest superimposition distance as an identified fingerprint image (IFI) (See for example, section 11, pp. 831-833). Although Jain, et al. does not expressly call for superimposing the images, it would have been obvious if not inherent, that to ensure accurate matching of the input and template images, superimposing the input image with the template is a necessity prior to performing an alignment operation, so that the two images are aligned appropriately.

With regard to claim 2, the fingerprint authentication method (20) of claim 1, further comprising: (S22) deriving the user fingerprint image (UFI) from a pressure map (PM), i.e., ridges or ridge map of the finger obtained when a finger is in contact with the platen by applying some force/pressure, wherein the user fingerprint image (UFI) is a black and white fingerprint image (See for example, sections 6-7; and Figs. 3 & 5, pp. 823-825).

With regard to claim 3, the fingerprint authentication method (20) of claim 1, further comprising: (S22) deriving the user fingerprint image (UFI) from a pressure map (PM), wherein

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the user fingerprint image (L1F0 is a grayscale fingerprint image (See for example, section 8, page 826).

With regard to claim 4, the fingerprint authentication method (20) of claim 1, superimposing the user fingerprint image (UFI) with each control fingerprint image (CFI) as a function of a movement of the control points includes: (S64) moving the detected control points within at least one of the user fingerprint image (UFI) and a first control fingerprint image (CFI) to superimpose a first set of ridges of the user fingerprint image (UFI) and a second set of ridges of the first control fingerprint image (CFI) (See for example , section 8, pp. 825-826; and section 11, pp. 831-833).

With regard to claim 5, the fingerprint authentication method (20) of claim 4, wherein (S28) authenticating of the control fingerprint image (CFI) having the shortest superimposition distance with the user fingerprint image (UFI) as an identified fingerprint image (IFI) includes: (S72). sorting a group of superimposition distances based on a number of control point movement steps; and (S74) selecting a superimposition distance having the fewest control point movement steps as the shortest superimposition distance (See for example, sections 10 -11, pp. 829-833).

Claims 6, 7, and 8 are rejected the same as claims 1, 2 and 3 except claims 6, 7, and 8 are directed to apparatus claims. Thus, arguments similar to those presented above for claims 1, 2, and 3 are respectively applicable to claims 6, 7, and 8. Applicant's attention is also invited to Figure 2.

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Claim 9 is rejected the same as claim 6. Thus argument similar to that presented above for claim 6 is applicable to claim 9. Claim 9 distinguishes from claim 6 only in that it recites a database (50) operable to store a plurality of control fingerprint images (CFI); and a fingerprint authentication module (41) operable to retrieve at least two control fingerprint images (CFI) from the database (50) to thereby authenticate one of the control fingerprint images (CFI) with a User fingerprint image (UFI). Fortunately, Jain, et al. discloses these features (See for example, Fig. 2 and the associated text).

Claims 10 and 11 are rejected the same as claims 7 and 8. Thus, arguments similar to those presented above for claims 7 and 8 are respectively applicable to claims 10 and 11.

Claims 12 and 13 are rejected the same as claims 4 and 5 except claims 12 and 13 are directed to apparatus claims. Thus, arguments similar to those presented above for claims 4 and 5 are respectively applicable to claims 12 and 13.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Patent Numbers: 6064753 and 6487306.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIEL G. MARIAM whose telephone number is 571-272-7394. The examiner can normally be reached on M-F (7:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, VIKKRAM BALI can be reached on 571-272-7415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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/DANIEL G MARIAM/
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